09604260 - 060504

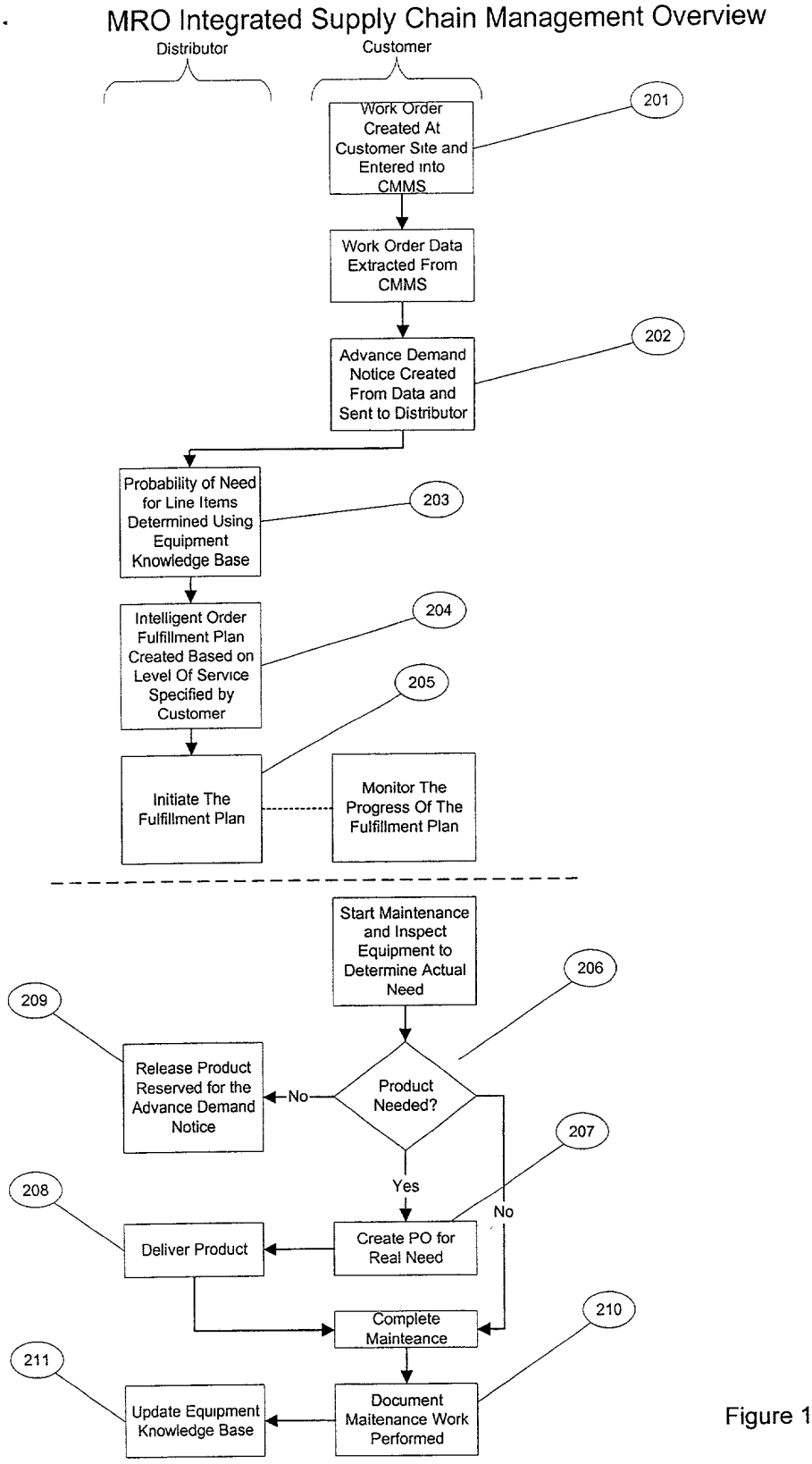

Figure 1

Intelligent Agent and Transaction Network

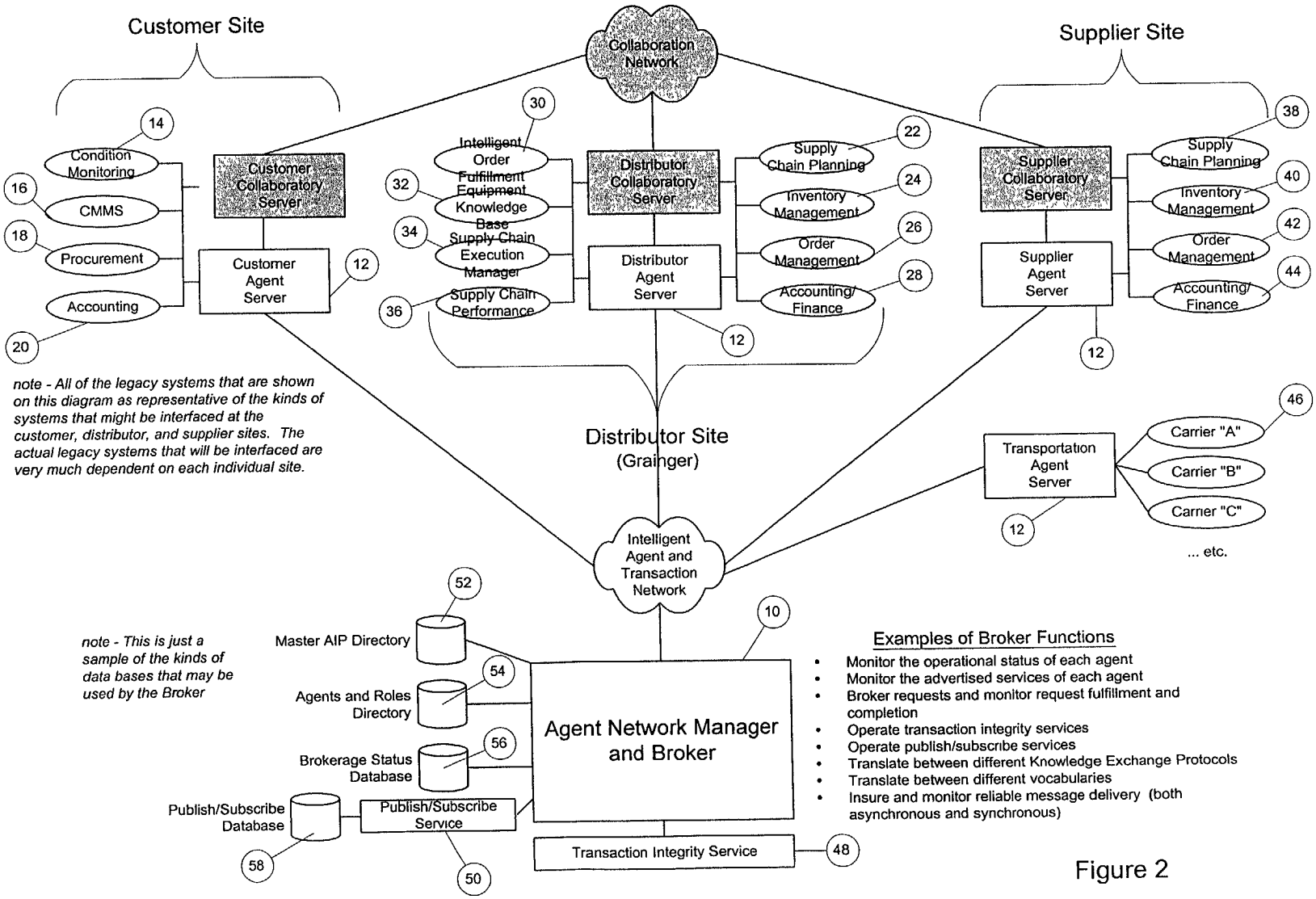

Figure 2

Agent Server Components

Depicted in the Context of a Customer Site

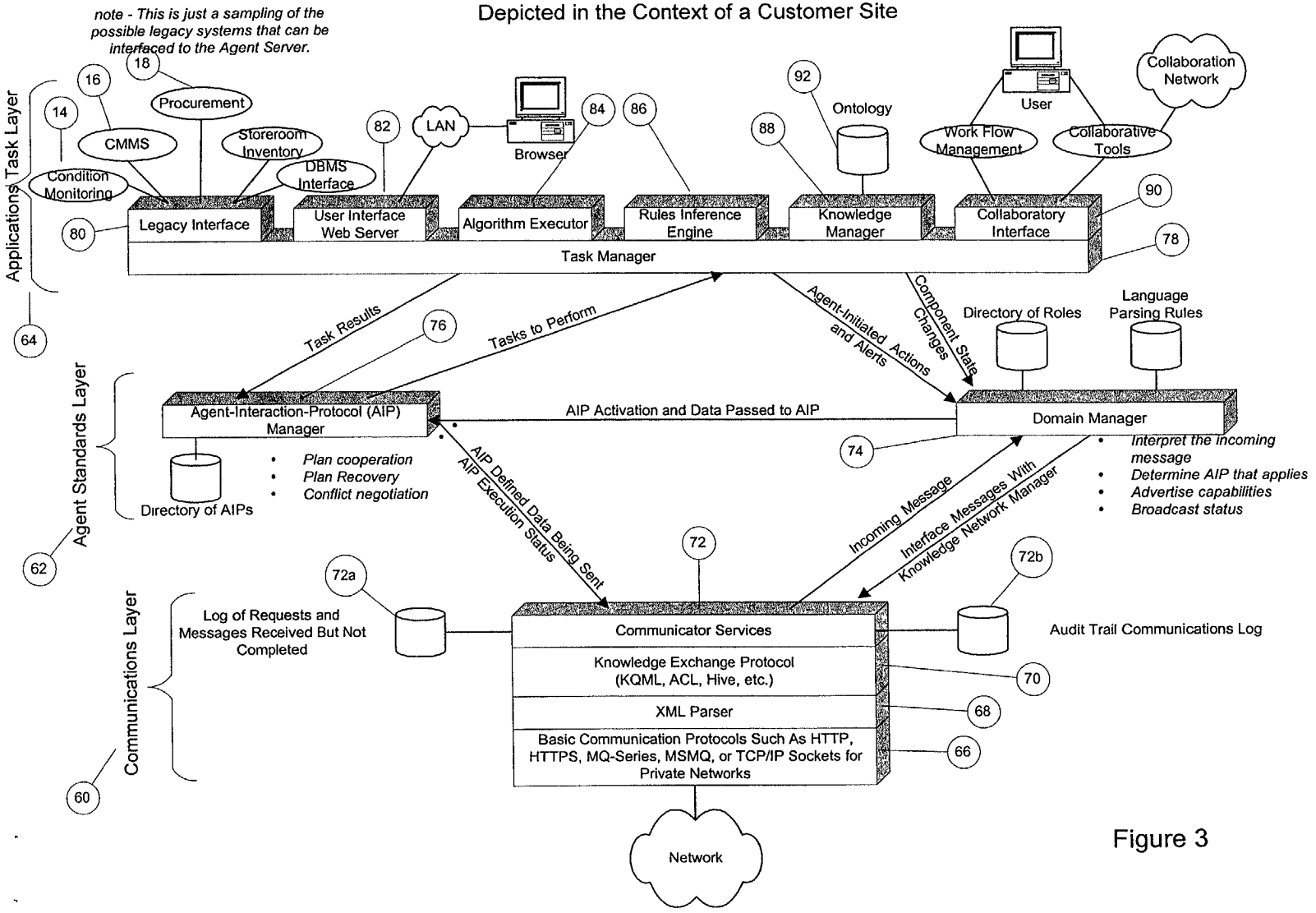

Figure 3

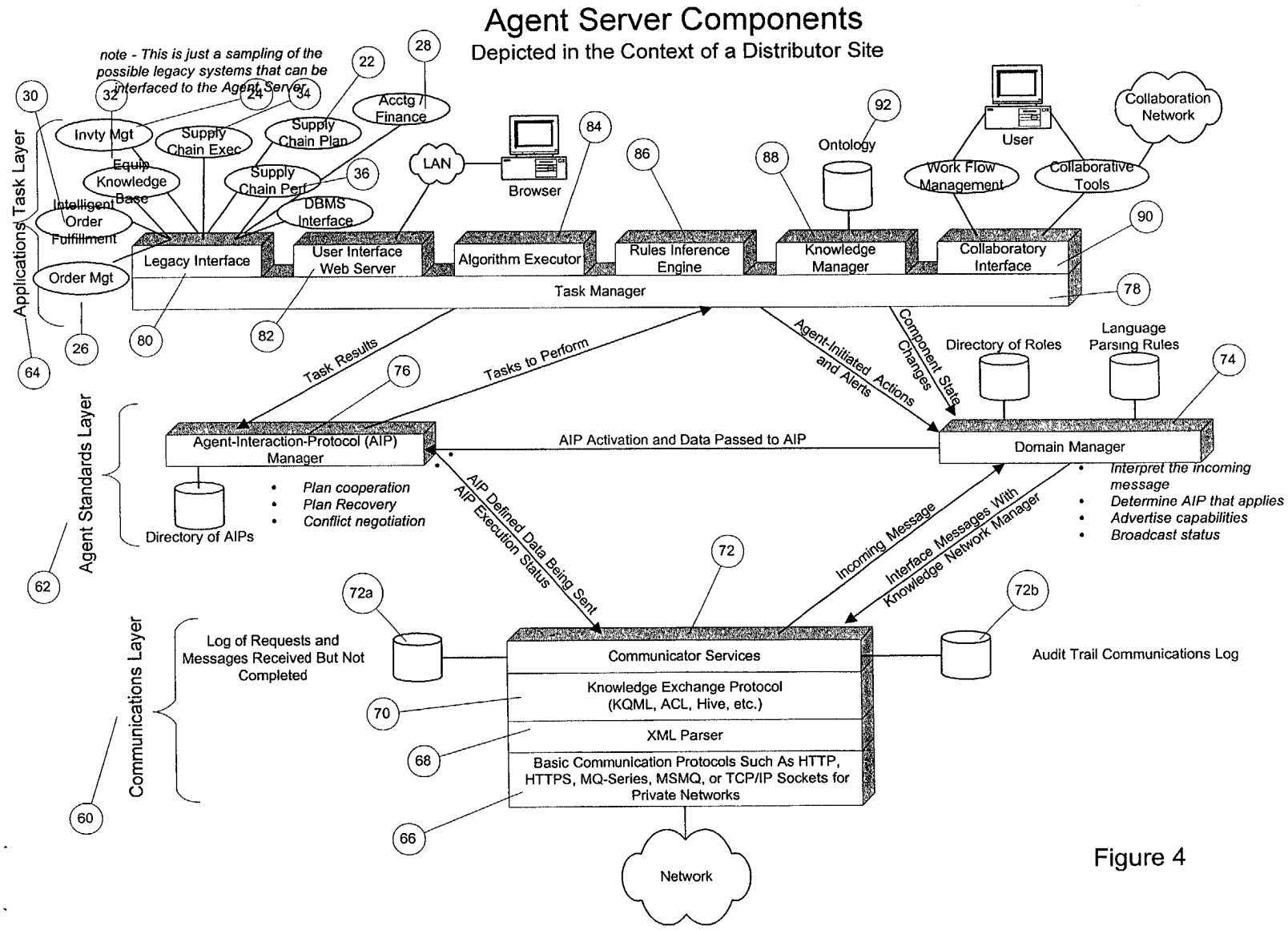
Agent Server Components
Depicted in the Context of a Distributor Site
note - This is just a sampling of the possible legacy systems that can be interfaced to the Agent Server
Applications Task Layer
Invty Mgt
Supply Chain Exec
Supply Chain Plan
Acctg / Finance
Equip Knowledge Base
Supply Chain Perf
DBMS Interface
Intelligent Order Fulfillment
Order Mgt
LAN
Browser
Ontology
User
Collaboration Network
Work Flow Management
Collaborative Tools
Legacy Interface
User Interface Web Server
Algorithm Executor
Rules Inference Engine
Knowledge Manager
Collaboratory Interface
Task Manager
Task Results
Tasks to Perform
Agent-Initiated Actions and Alerts
Component State Changes
Directory of Roles
Language Parsing Rules
Agent Standards Layer
Agent-Interaction-Protocol (AIP) Manager
AIP Activation and Data Passed to AIP
Domain Manager
Plan cooperation
Plan Recovery
Conflict negotiation
Directory of AIPs
AIP Defined Data Being Sent
AIP Execution Status
Incoming Message
Interface Messages With Knowledge Network Manager
Interpret the incoming message
Determine AIP that applies
Advertise capabilities
Broadcast status
Communications Layer
Log of Requests and Messages Received But Not Completed
Communicator Services
Knowledge Exchange Protocol (KQML, ACL, Hive, etc.)
XML Parser
Basic Communication Protocols Such As HTTP, HTTPS, MQ-Series, MSMQ, or TCP/IP Sockets for Private Networks
Audit Trail Communications Log
Network

Figure 4

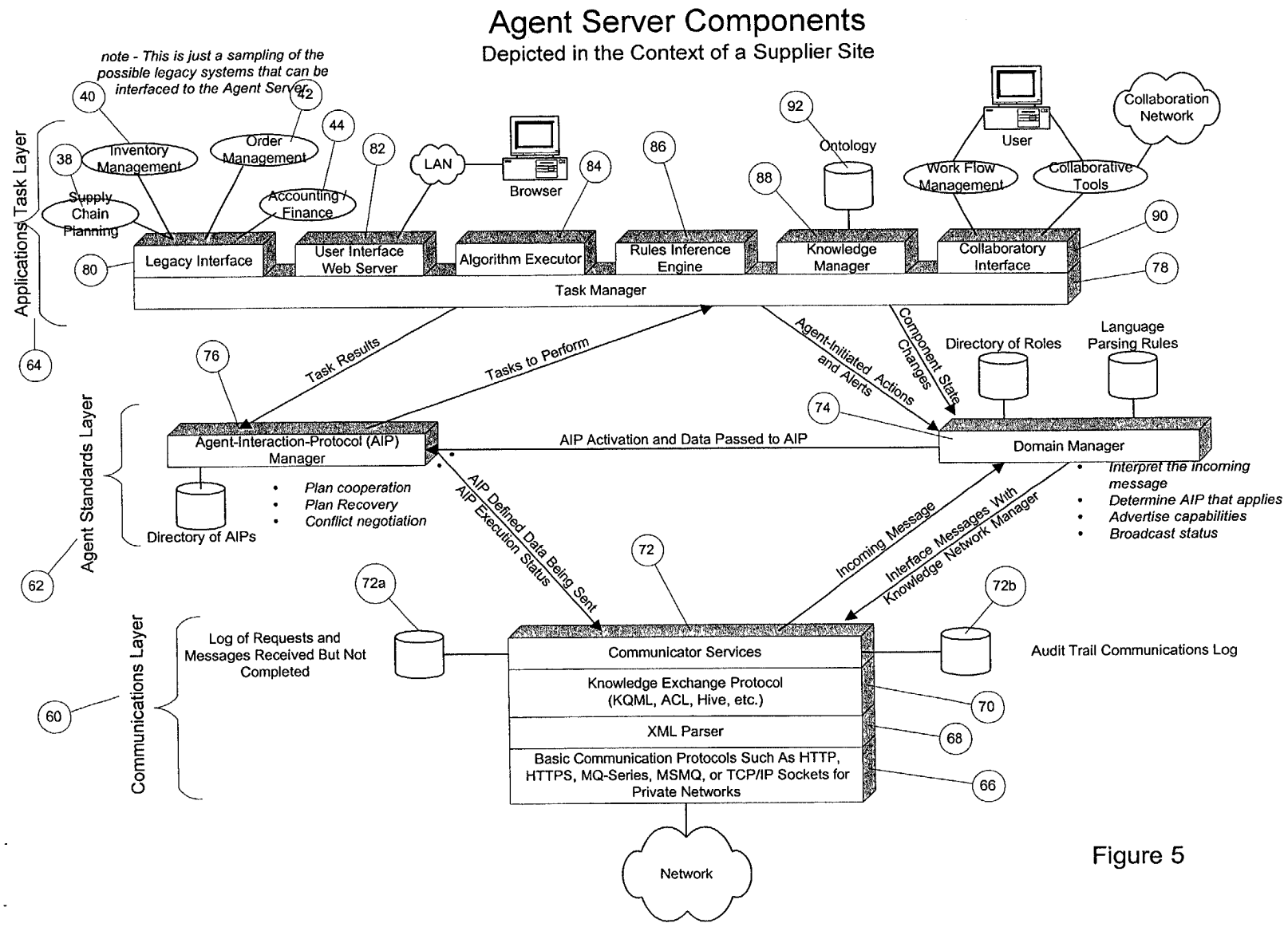
Agent Server Components
Depicted in the Context of a Supplier Site
note - This is just a sampling of the possible legacy systems that can be interfaced to the Agent Server
Applications Task Layer
Inventory Management
Order Management
Supply Chain Planning
Accounting / Finance
LAN
Browser
Ontology
User
Collaboration Network
Work Flow Management
Collaborative Tools
Legacy Interface
User Interface Web Server
Algorithm Executor
Rules Inference Engine
Knowledge Manager
Collaboratory Interface
Task Manager
Task Results
Tasks to Perform
Agent-Initiated Actions and Alerts
Component State Changes
Directory of Roles
Language Parsing Rules
Agent Standards Layer
Agent-Interaction-Protocol (AIP) Manager
Plan cooperation
Plan Recovery
Conflict negotiation
Directory of AIPs
AIP Activation and Data Passed to AIP
Domain Manager
Interpret the incoming message
Determine AIP that applies
Advertise capabilities
Broadcast status
AIP Defined Data Being Sent
AIP Execution Status
Incoming Message
Interface Messages With Knowledge Network Manager
Communications Layer
Log of Requests and Messages Received But Not Completed
Communicator Services
Knowledge Exchange Protocol (KQML, ACL, Hive, etc.)
XML Parser
Basic Communication Protocols Such As HTTP, HTTPS, MQ-Series, MSMQ, or TCP/IP Sockets for Private Networks
Audit Trail Communications Log
Network

Figure 5

Ontology Structure and Meta-Knowledge

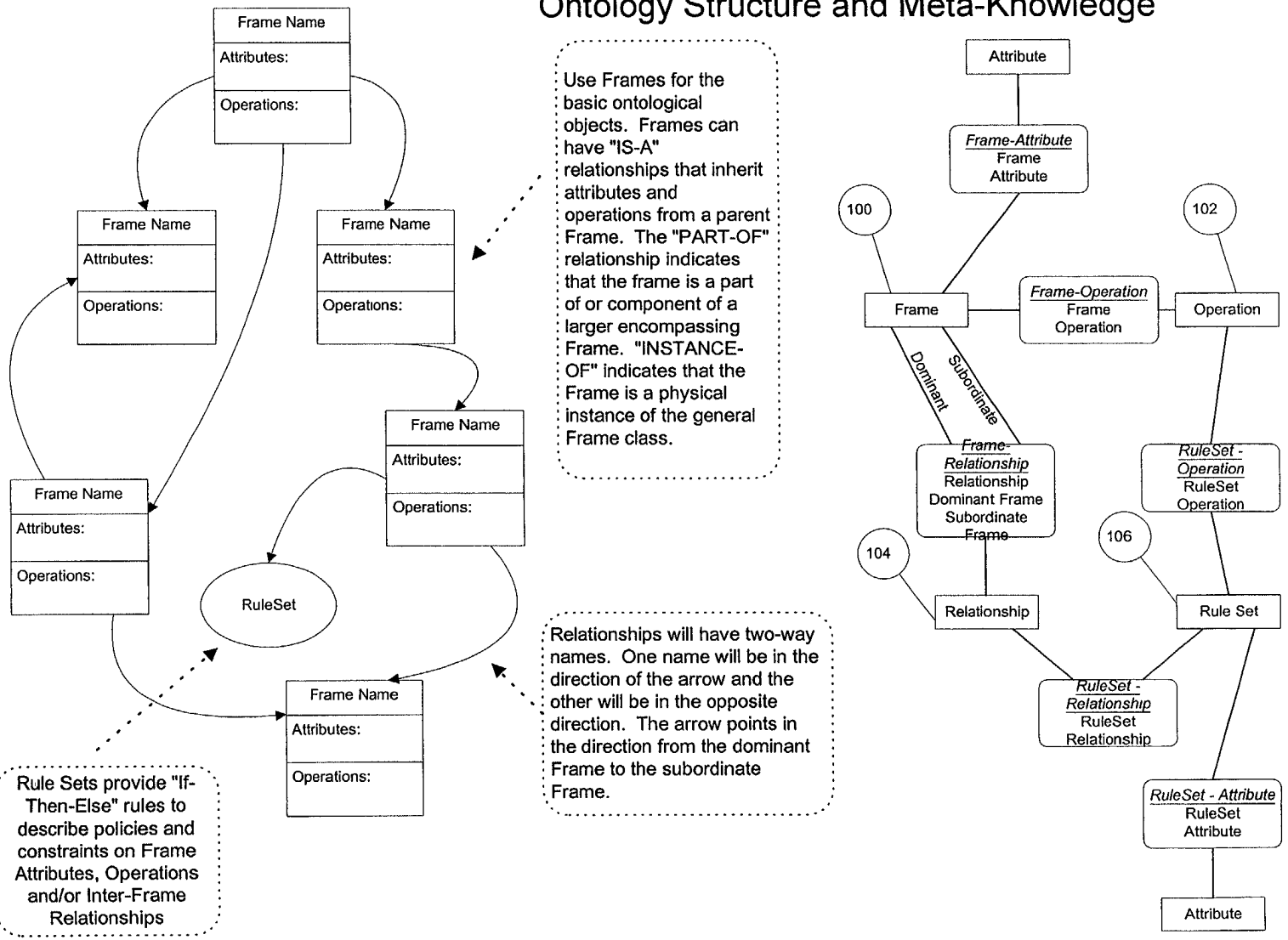

Figure 6

Intelligent Order Fufillment Planning

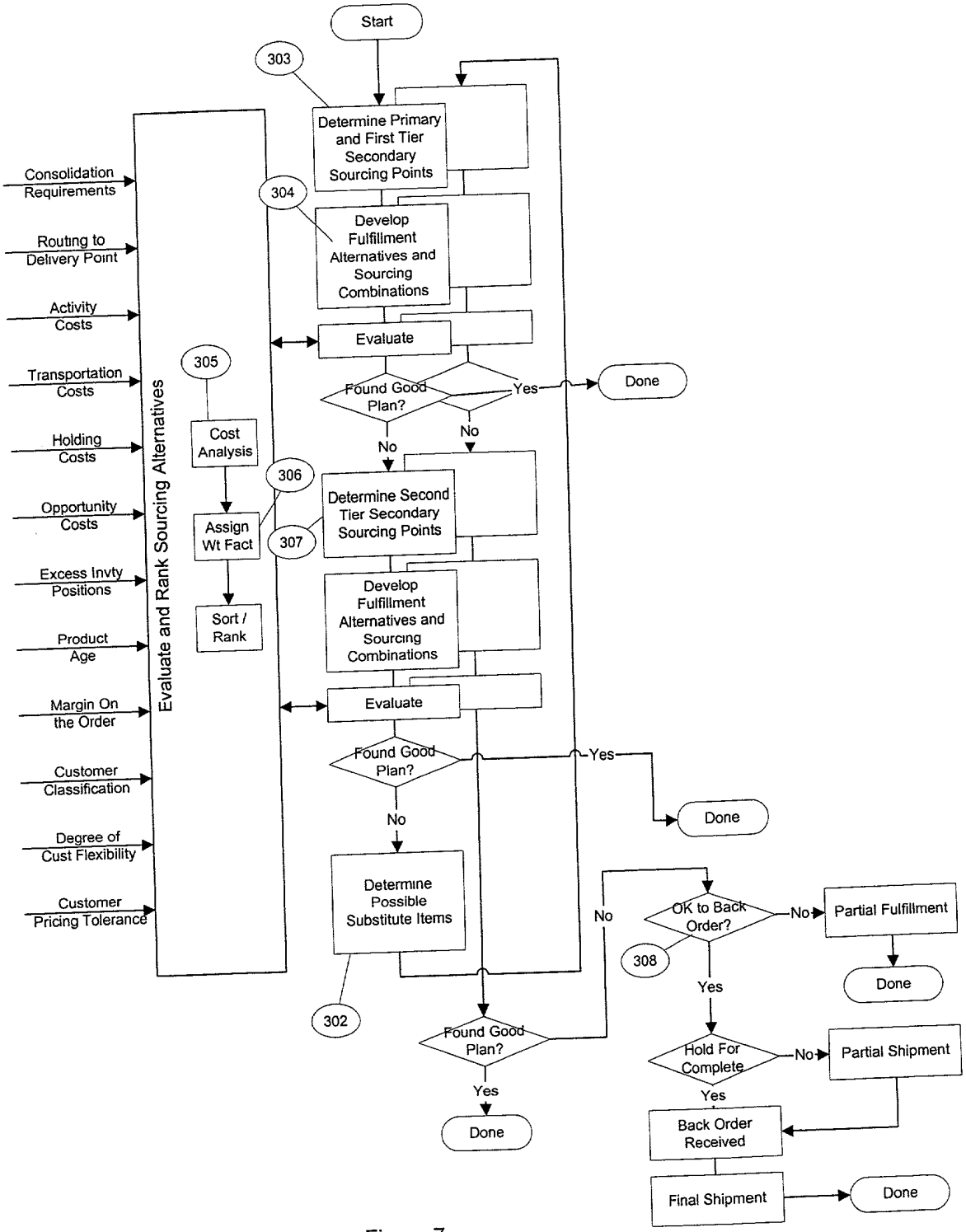

Figure 7

Inventory Management

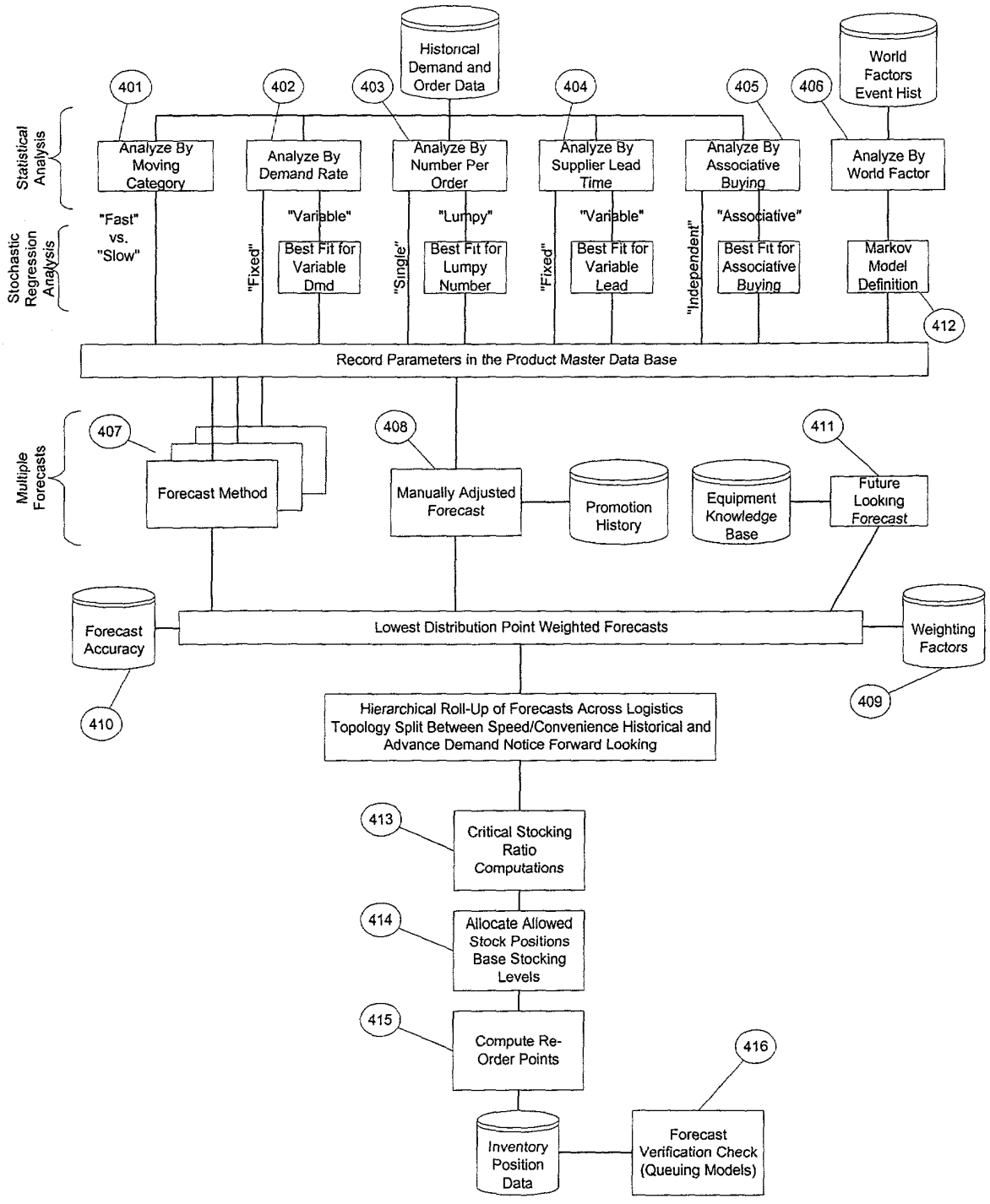

Figure 8

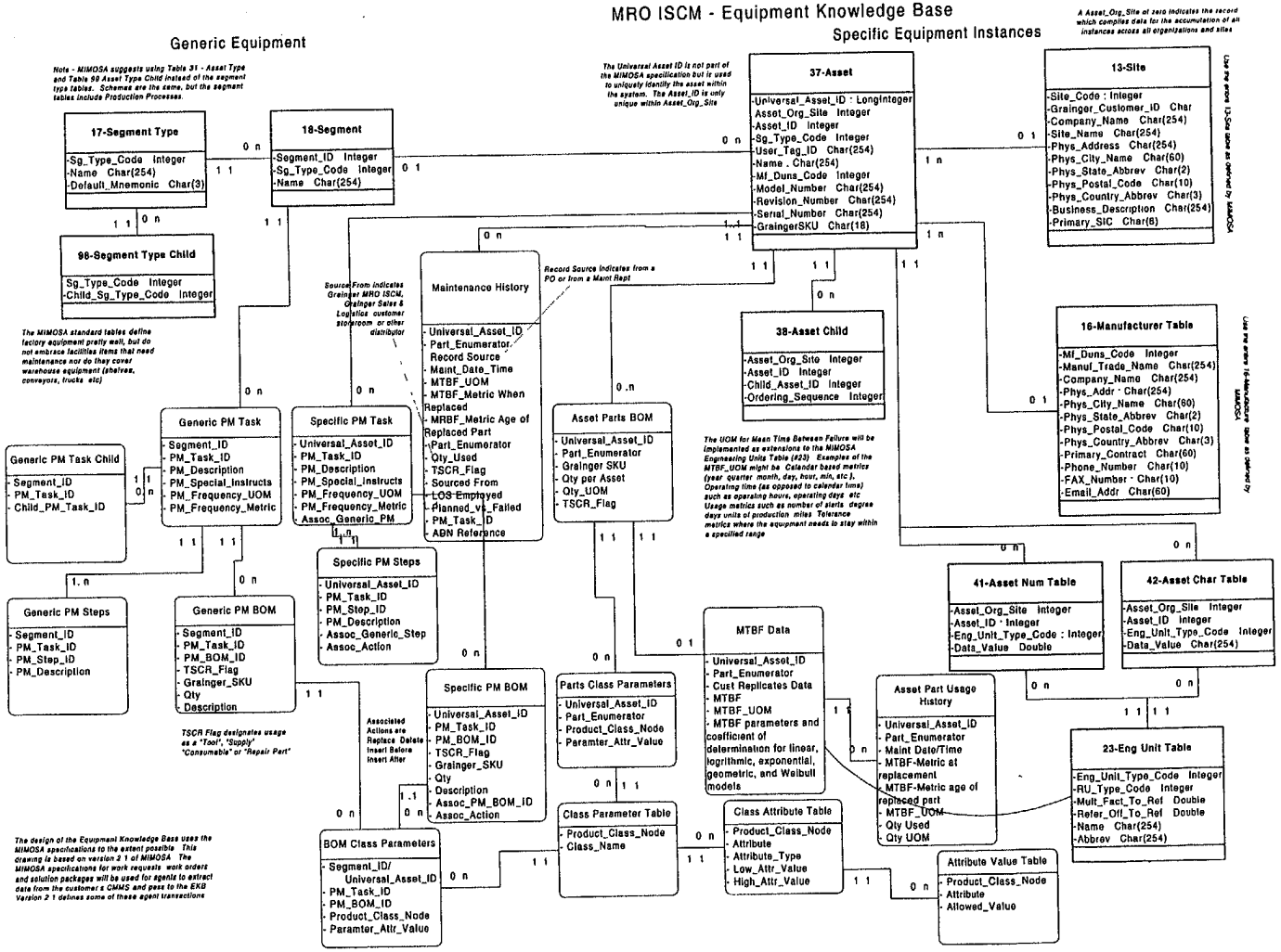
MRO ISCM - Equipment Knowledge Base
Generic Equipment
Specific Equipment Instances
17-Segment Type
18-Segment
37-Asset
13-Site
98-Segment Type Child
Maintenance History
38-Asset Child
16-Manufacturer Table
Generic PM Task
Specific PM Task
Asset Parts BOM
Generic PM Task Child
Specific PM Steps
Generic PM Steps
Generic PM BOM
Specific PM BOM
MTBF Data
Parts Class Parameters
Asset Part Usage History
41-Asset Num Table
42-Asset Char Table
23-Eng Unit Table
Class Parameter Table
Class Attribute Table
Attribute Value Table
BOM Class Parameters

Figure 9

New Customer Equipment Data Added to Equipment Knowledge Base

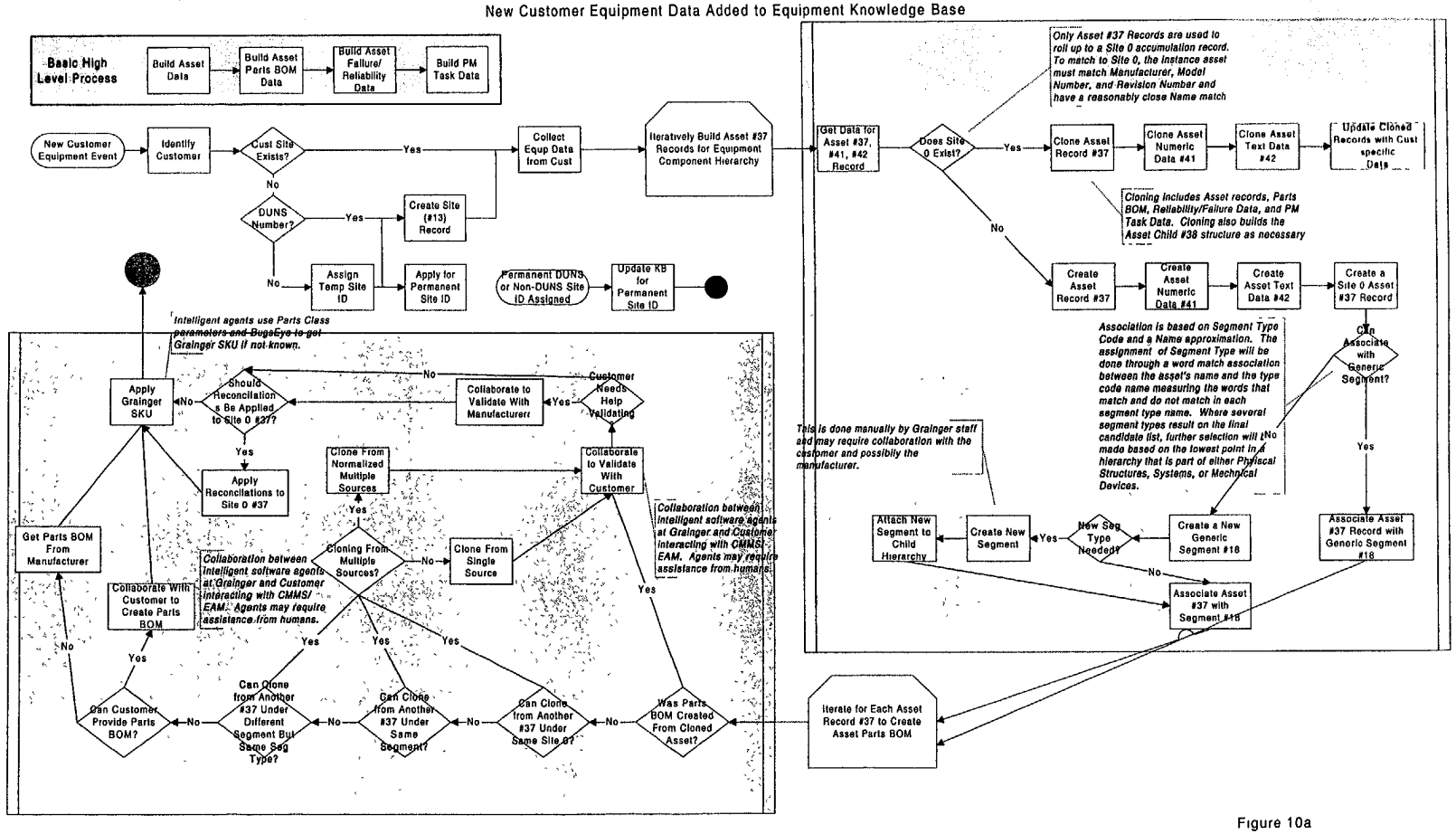

Figure 10a

New Customer Equipment Data Added to Equipment Knowledge Base (cont)

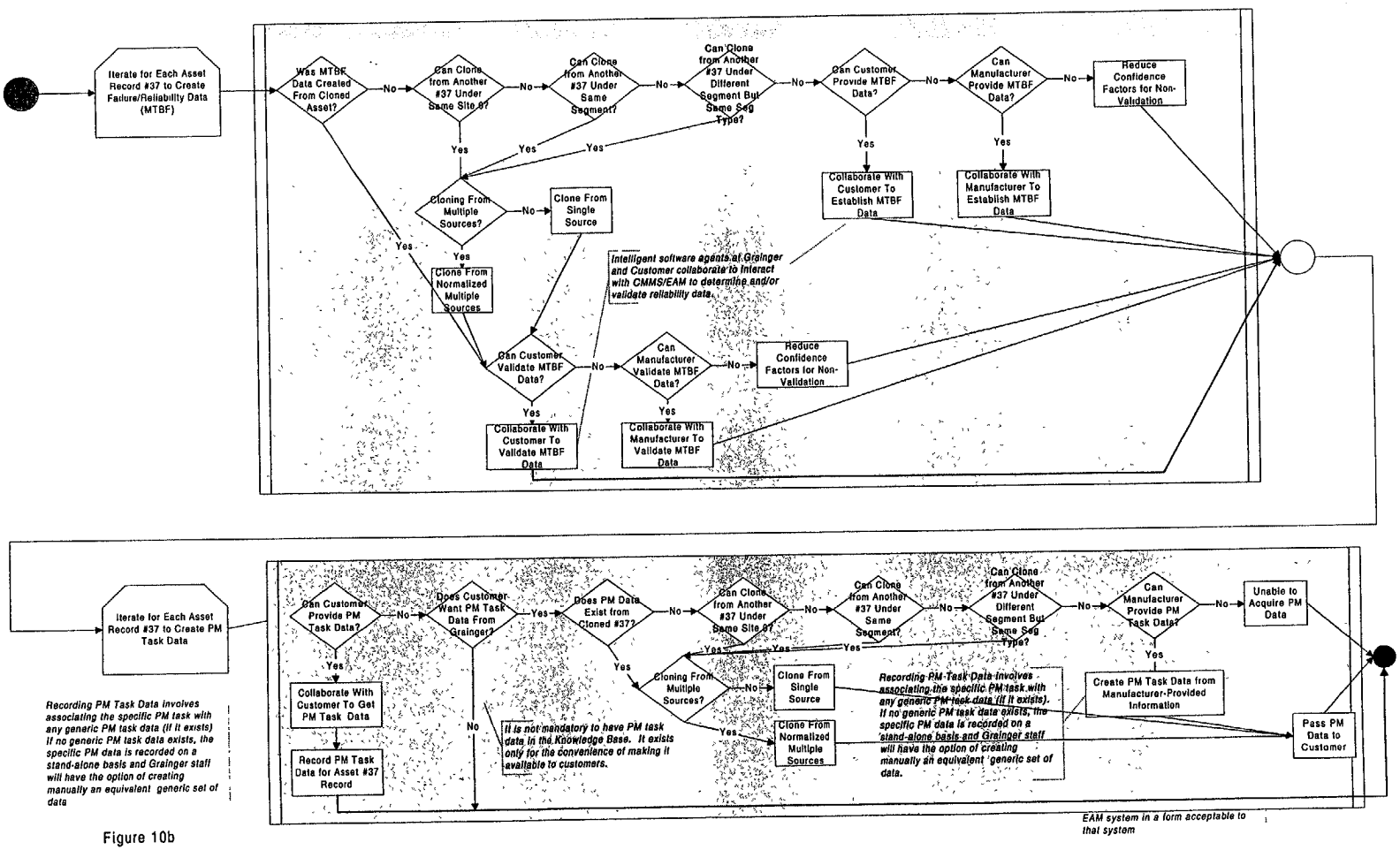

Figure 10b

PROJECT DATABASE

Record Maintenance Results in the Equipment Knowledge Base

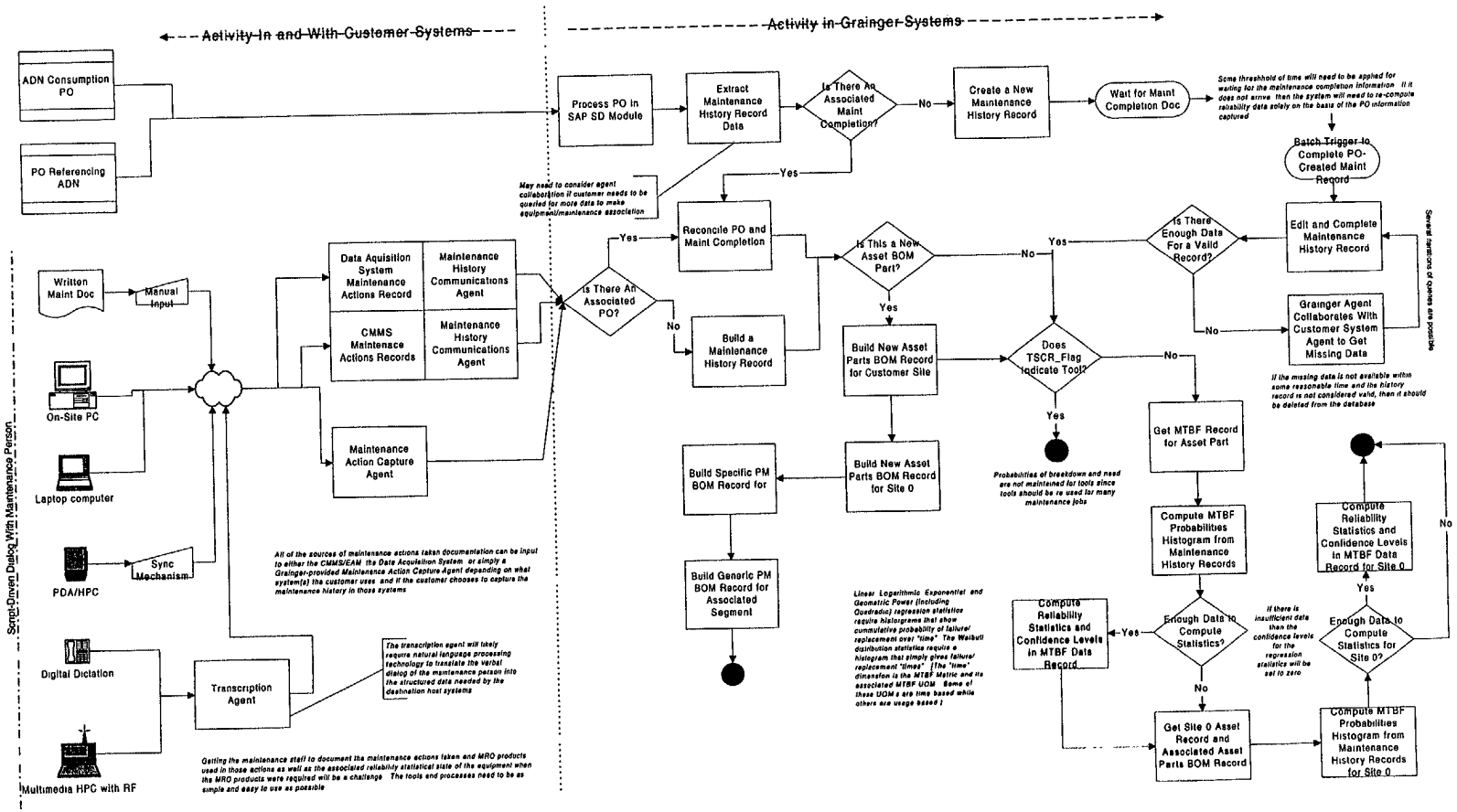

Figure 11

MRO Integrated Supply Chain Management Environment and System

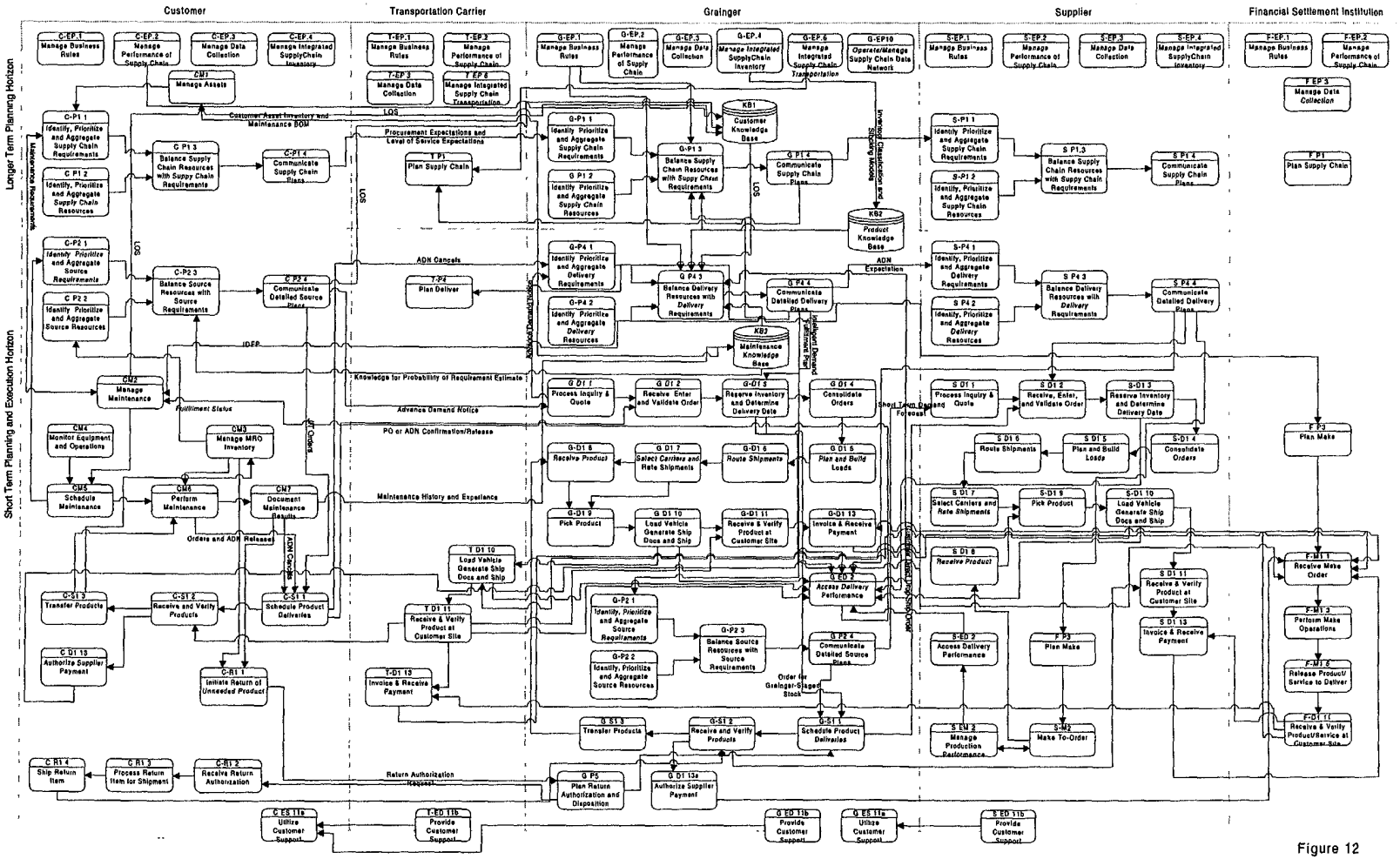

Figure 12

US 2003/0069826 A1

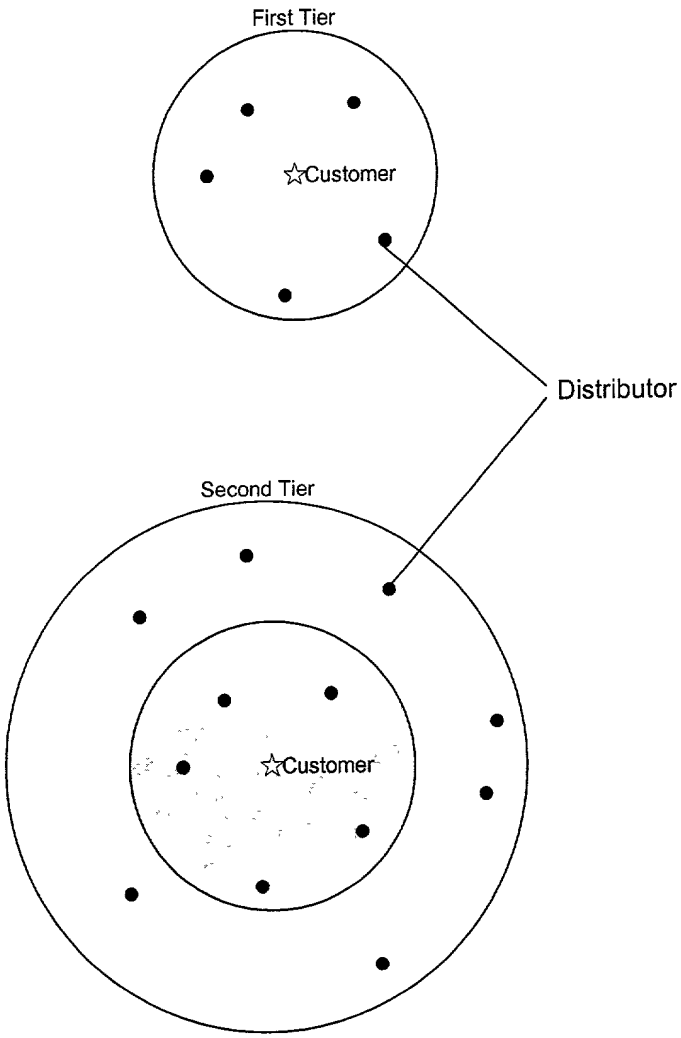

FIGURE 13